

XXIV. *On the Hymenopterous genera Trichogramma, Westw., and Pentarthron, Riley.* By R. C. L. PERKINS, D.Sc., M.A., F.E.S.

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PLATE XXXIII.

It has for a long time been an uncertain question amongst students of the Chalcid group of Hymenoptera, as to whether the genera *Trichogramma* and *Pentarthron* are distinct, or the latter a mere synonym of the former. In the latter part of last year (1912) Prof. E. B. Poulton of the Hope Department of Zoology at Oxford was so kind as to offer me the opportunity of examining at leisure the unique type of Westwood's *Trichogramma evanescens*. The specimen is very old and bears the label "*Trichogramma evanescens*, Westw., Phil. Mag., minute sp. Chalcidiae, at Chelsea, June 11th, 1828."

A preliminary examination with a strong lens and compound microscope showed one fore-wing to be in good preservation, though with a good deal of dust and dirt obscuring the details of the hairy clothing. The other fore-wing was torn and the one lower wing was crumpled. A projection from the head proved to be the long scape of one antenna, but the critical joints were missing, and there were no parts of the antennae gummed on the card. After making drawings of the entire front wing, as well as could be managed without cleaning, the specimen was relaxed and much of the dirt removed. The gum with which the insect had been stuck down swelled up greatly (being probably tragacanth) and was with much difficulty separated from the insect, even the upper surface of the wing not being free from it. Subsequently the specimen was mounted in Canada balsam and fresh drawings of the wing made.

The front wing, as can be seen from figure 1, agrees in all essential characters with that of *Pentarthron*. Compared with a species of the latter from Hawaii (fig. 2) the one really notable difference is that whereas in *T. evanescens* there are only two hairs placed transversely on the

wing beneath the lower extremity of the stigmal vein, in the Hawaiian species there is a long row of these hairs, meeting at right angles (or nearly so) with the inner extremity of the second hair-line from the dorsal margin of the wing. The hair-lines, marked *a* and *b*, which converge basally to enclose a triangular space, include irregularly disposed hairs, which are rather different from those of fig. 2, and altogether less numerous than those in the same area of *P. flavum* of Hawaii, shown in fig. 3. Whether the differences in the clothing of this area are even of specific value is very questionable. It is worth remarking that in all Hawaiian forms of *Pentarthron*, however they may differ in colour of body or wings, the transverse hair-line from the lower end of the stigmal vein always remains conspicuous and consists of many hairs.

The neuration of *Trichogramma* and *Pentarthron* appears identical, for the apparent form of the veins appears a little different in different examples of a species, owing to slight differences in mounting, the pressure on the wing, etc. In fig. 6 the neuration of *P. flavum* is shown, in fig. 7 that of *T. evanescens*. The position of the macrochaetae, indicated by black dots, is practically the same and their number (8) is also the same in each. The marginal cilia of the fore-wing are slightly longer in *T. evanescens* than in Hawaiian *Pentarthron*.

It is much to be regretted that the antennae of the type of *Trichogramma* are wanting, as these organs alone could absolutely settle the question of the identity of the two genera or their distinctness. Fig. 4 is the antenna of *T. evanescens* after Westwood,\* and it is extremely different from that of *Pentarthron* (antenna of *P. flavum*, fig. 5), nor is it like the antenna of any *Trichogrammid* with which I am acquainted. The antennae of all the forms of *Pentarthron* ♀ I have examined are very similar, consisting of a long scape, an elongate pedicel, followed by an extremely short transverse ring-joint, two short funicle joints and a great solid club, or 6 joints in all. Westwood

\* Since this was written I have seen the figure of *T. evanescens* (presumably copied from Westwood's paper) in Wytzman's Gen. Insectorum. This figure represents the antennae quite differently from that in Westwood's "Classification," and the whole insect bears no resemblance to the type specimen. In fact it is so unlike, that it cannot even be considered as a caricature of the species.

